

Exploring the effectiveness of technology integration on students' motivation and engagement during Covid-19 from teachers' perspectives: A case study

YaffaJuma'h Ahmed, *Master Degree in Methods of Teaching English, Faculty of Educational Sciences and Teachers' Training, An Najah National University, Fellow of Middle East Professional Learning Initiative fellowship (MEPLI) at Harvard Graduate School of Education& participant in CAEL at HGSE*

Islam Asim Ismail, *PhD researcher in English Language Education, Faculty of Educational Sciences and Teachers' Training, An Najah National University, Nablus, Palestine. ORCID:0000-0001-5115-3005*

Amnah Abo mokh, *A PhD researcher in Teaching and Learning program, Faculty of Educational Sciences and Teachers' Training, An Najah National University, Nablus, Palestine.*

Manal Mohammed Hamarsha, *Master Degree in Methods of Teaching English, Faculty of Educational Sciences and Teachers' Training, An Najah National University, proofreader at Law for Palestine*

Abstract. Recent theoretical developments have revealed that technology can promote education in an effective way. This study aims to explore the effectiveness of technology integration on the students' motivation and engagement during covid-19 from teachers' perspectives. For data collection, the researchers conducted online interviews with (13) teachers from different specializations at Sarta Secondary Girls School. The researchers use interviews to collect qualitative data that was first transcribed and then analyzed. The questions of the interviews were designed as the consistency of its previous literature. The results of the analysis showed an efficient impact of the technology on students' motivation and engagement when there is a good infrastructure of technology such as devices, tools, and training teacher. The study recommends improving the technological environment of the school through fund support from the private sectors. It also suggests the Palestinian Ministry of Education conduct special training courses for teachers to wax and wane their skills to effectively integrate technology in their teaching.

Keywords: integration technology, Covid-19, motivation, engagement, teachers' perspectives.

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INTRODUCTION

Today's students have been surrounded by technology from their childhood (Egbert, 2009). Almost all of their daily practice including their learning is intertwined with technology (Iivar & Ventä-Olkkonen, 2020). Technology has revolutionized the field of education. Costley (2014) states, "Technology has a positive impact on student learning" (p.2). The importance of technology in schools cannot be ignored. In fact, with the onset of computers in education, it has become easier for teachers to impart knowledge and for students to acquire it. This is what Tinio (2002) confirms by stating that information and communication technology has a tremendous impact on the acquisition and assimilation of knowledge for both teachers and students.

The use of technology has made the process of teaching and learning all the more enjoyable (Raja, 2020). The influence of technology on the learning-teaching process is stated by Oblinger and Hawkins (2006) that technology products are certainly needed in online learning-teaching processes and its role to deliver knowledge is very much influential. Online learning using the full program has become media technology, such as HP, laptops, and laptops, in light of the Corona crisis, and this has had many implications in the learning and education process (Kaharuddin, 2020).

Technology has been used in the classroom in recent decades, and many studies show that the effective integration of technology into classroom instruction positively affects students' motivation, engagement, and interest in learning. Technology positively affects student learning. Technology makes students more engaged, and more information saver. "Technology also provides practical learning opportunities that can be incorporated into all areas of the school curriculum, including mathematics, and it

gives students opportunities to collaborate with their peers leading to learning from one another. Together, these factors can have a positive impact on student learning and motivation" (Costley, 2014).

A report issued by the US Department of Education (1995) stated that students felt that using technology made them feel smarter and more unique, allowing them to get to know others. Seventy percent of the students surveyed indicated that computers "made learning more enjoyable." The study by Swan et al. 2005 also indicates that incorporating technology in the classroom significantly contributed to the self-esteem of students and led to increased interaction in the classroom.

One of the most important results of studies related to the use of technology in the teaching and learning process is what indicates the effectiveness of technology in motivating and engaging students (Godzicki, Godzicki, Krofel & Michaels 2013).

Technology contributes to improving student motivation, engagement, interest, grades, and achievement by using multimedia programs and programs designed to develop students' skills and knowledge, such as multimedia presentations, and videos that can be accessed on the Internet (Boster, Meyer, Roberto, & Inge, 2004; Maushak, Chen, & Lau, 2001). Finally, an important thing must be noted, which is that technology by itself cannot improve the motivation and participation of students, and to achieve this, attention must be paid to how the teacher uses technology in the structure of teaching and learning. So it is imperative to teach teachers how to use technology effectively (Lumley, 1991; Page, 2002).

In the educational context, the possibility of achieving educational objectives and improving its relevance and quality can be achieved through information and communication technology. Thus, technology can be used in the classroom to enrich the learning experience. The application and integration of technology in education ensures the achievement of a successful semester and prepares students for their future careers in the twenty-first century (Francis, 2017).

Teachers' enthusiasm for employing technology in the educational process has a strong impact on their students' motivation and engagement during the learning process. No doubt that students look like a mirror of their teachers. There is a deep relation between teachers' motivation and their students' motivation in terms of the potential to learn. This study argues that technology and teachers' motivation have positive effects on students' motivation. Such insights are supported by an early study published in 2000. The study found that if teachers use technology in their teaching, the students' motivation would increase rapidly (Atkinson, 2000).

The effectiveness of learning using technology has been taken from both sides. There is evidence that the use of technology might increase the achievement and self-efficiency of students (Liu et al., 2006). Although this can be true some studies show that the use of technology is not beneficial to students in certain areas. Technology integration must have a purpose to be beneficial for producing positive results (Gramer & Smith, 2002).

Some studies completed by Dwason (2012); Downes and Bishop (2012); and Martinez and Schilling (2010) observed increased engagement and motivation in students when they had the opportunity to use technology tools for the creation of authentic learning experiences. Students find technology more engaging because it bridges the gap between their digital lives outside of school and their non-digital lives inside of school.

Statement of problem

It is of interest to know whether integration technology in education at Sarta Secondary Girls' School during Covid-19 still holds. Technology is a basic challenge these days and has a double-edged sword, one of the positive and the other is negative. Since teachers' duties are increasing at schools, they should behave wisely by orienting students' technological abilities to beneficial and positive ways. Teachers are eagerly wanted to know whether using technology is effective or not in their classes. So, they can focus their efforts on how to teach their materials perfectly using technology. Motivation and engagement are very significant views in the classroom scene. Therefore, to enhance them, technology integration might be one of the available tools there. It might be successful and this refers to digital students natively. As a result, this makes their learning easier and smoothly. Furthermore, integrating technology facilitates their understanding of the lesson and retaining the information for more time. We argue that students would have the chance to practice what they learn through the different learning websites rather than having a one only source. In essence, teachers are interested to know whether using technology in their teaching deserves the time and effort that they spend on it.

The importance of the study

Research on the importance of technology in education during Covi-19 is a maturing field, to be investigated. The importance of this study springs from the importance of technology in the 21st-century. This study argues that is important to orient students' attention to more comprehensive domains of learning. Besides, since teachers have played a great role during the learning process, it is vital to understand whether teachers can employ technological learning process for students. Moreover, identifying teachers' perspectives toward technology in education provides the educators the weakness and strengths points that they have gone through during their teaching process. It also gives a clear understanding regarding their technological preparedness; therefore, policymakers can take decisions to enhance their skills. Thus, the teachers' teaching quality would be improved.

Purpose of the study

Without a doubt, a technology commonly has positive outcomes if it is used efficiently, especially in the light of students' motivation and engagement in their learning. The current generation of students, known as the digital native has grown up with technology since this young generation is attached technology, this study argues that teachers can use this advantage to improve their learning skills using technological tools regardless of where the learners are; classroom or home. This study attempts to explore how technology integration influences learning. It also seeks to know to what extent it is utilized by teachers in Sarta Secondary Girls School in Salfit Directorate.

The questions of the study:

- 1-What is the degree of technology integration in the teaching and learning process at Sarta Secondary Girls School during Covid-19?
- 2- How does technology integration affect student's motivation and engagement?
- 3- What are the obstacles of technology integration in the teaching-learning process?
- 4- What are the suggestions for enhancing the technology environment at Sarta Secondary Girls School?

LITERATURE REVIEW

Technology in Education

Technology is used by teachers and students in the classroom to achieve educational goals. In the study of elementary students, low socioeconomic study complemented that classroom technology contributed importantly to the self-esteem of students and led to an increase in classroom integration. Educational theorist John Dewey said, "If we teach today's students as we thought yesterday's, we rob them of tomorrow (Bledsoeas cited in Pilgrim, 2012).

Today, educational situations have become different. Teachers are expected to do more than just teaching the curriculum. The current generation of students, known as the digital native has grown up with technology. Motivation is an important concern among teachers (Brink and Pint Rich,2003). The problem of motivating students is still the main concern for policymakers and curriculum designers. There is no radical solution but there are strategies that help the teacher with the dilemma. One kind of these strategies is technology because it can enhance the inner motivation of students and make the classroom environment more enjoyable and efficient.

Students motivation

Motivation has been defined as an internal force that motivates an individual to take any action or move towards a goal (Harmon-Jones, Harmon-Jones, & Price, 2013). As for the student's motivation, in particular, it was defined as the strength, creativity, and willingness of students to learn (Field & Harris, 2004). Motivation is multidimensional and is made up of many elements such as beliefs, goals, values, desires, needs, and emotions (Murphy & Alexander, 2000; Wentzel & Wigfield, 2009; Anderman & Dawson, 2011). According to Gottfried (1990, p. 525), academic motivation is "the enjoyment of school learning characterized by the direction of mastery; curiosity; persistence; self-task; and learning of difficult, difficult and new tasks."

Motivation is seen as an important factor in the educational process as it correlates positively with students' success in online education (Bolliger, Sobanakorn, and Boggs 2010). Studies show the association of academic motivation with positive academic and health skills and outcomes for students (Guay et al., 2008;

Archambault et al., 2009; Lai, 2011; Lazowski&Hulleman, 2016; Yilmaz Soylu et al., 2017; Camacho et al., 2020)

Besides, previous studies indicate a positive relationship between students' high motivation and their success in the online environment and vice versa (Hsu, Wang, & Levesque-Bristol, 2019; Nelson, Oden, & Williams, 2019).

Studies show that when students are asked about the most difficult part of distance learning, 39% answered "motivation." This lack of motivation is due to many contextual issues. Students also stated that due to the absence of the school's external motivations, routines, consequences, resources, and easy access to teacher and peer support, they became lacking internal motivation to study (Yates, Starkey, Egerton, & Flueggen, 2020). "Students reported being motivated when teachers used communication tools and curation platforms (Google, Education Perfect) for personal academic support. Also motivating were when teachers offered 'loads of resources that catered to a variety of learning preferences..." (Yates, Starkey, Egerton, & Flueggen, 2020, p.13).

If their self-efficiency is low, then their motivation to learn will be low. When students receive negative comments, their self-esteem and self-efficiency become less and they become unmotivated to achieve what they are looking forward to. No doubt motivated students to feel relaxed and excited during the task and feel worthy of what they do (Linnebrink and Pintrich, 2003).

In a traditional classroom, teachers need to enhance intrinsic motivation. Interest or curiosity is the source of intrinsic motivation (Woolfolk-Hoy and Hoy, 2009). Extrinsic motivation comes from outside the students which focuses on rewards such as high grades, games, and promotion gifts. To motivate students, teachers must encourage their students to create.

Having this in mind, it is a challenging task for teachers to create activities that students can enjoy and respond to in all subjects. Digital natives can manipulate very well technological activities because of their familiar background with technology (Atkinson, 2000).

Students' positive responses to technology and their efficient achievements in the technological classroom environment are some of the reasons behind the teachers' conscious efforts for integrating technological tools in the learning process.

The use of technology during Covid-19

The impact of the disruption caused by the Corona virus pandemic and subsequent public health measures on teachers' capacities to support student participation in technology education (Code et al; 2020). On the one hand, epidemiological shifting teaching prevents the learning of unmotivated students (Code et al; 2020), and on the other hand, the COVID-19 pandemic has suddenly and surprisingly forced schools and education already to engage in such a transformation (Iivari et al; 2020). Fortunately, however, the tools used in learning influence and modify learning (Kearney, Schuck, Burden and Aubusson, 2012), and with the emergence of the Coronavirus pandemic, students' reliance on technological devices in distance learning has become critical.

Bernard, Borokhovski, Schmid, Tamim, and Abrami (2014) indicate, the contribution of online learning and the integration of technology into the teaching and learning processes in raising students' performance, which we can observe through the increasing rates of course completion, student satisfaction, and their motivation levels. This is confirmed by numerous studies whose results show that online learning and the incorporation of technology into learning and teaching processes achieve better results than those of traditional education (Lockman & Schirmer, 2020; Ryan, Kaufman, Greenhouse, She, & Shi, 2016).

The results of Yate et al's (2020) study shows that supportive teaching methods through the effective use of technology helped motivate, collaborate, and authentic learning activities that enhanced students' distance learning experience in light of the Corona virus pandemic.

Furthermore, the results show that the effect of technology integration on learning in the classroom during the COVID-19 outbreak is greater than the effect of cultural integration on motivating students to learn English (Aldoguery, 2020). Another study based on implementing fish species diversity books through online learning during the Corona virus crisis indicates effectiveness in increasing students' learning motivation (Yustina et al; 2020). "One of the many lessons learned as a result of the COVID-19 pandemic is that resetting our education system is long overdue," Code et al; 2020).

METHODOLOGY

In this section, the researchers elaborate on the methodology that is adopted in this paper. The researcher tended to use qualitative research to analyze the collected data of 13 transcribed interviews to accomplish the research. The researcher designed four questions to be asked to (13) teachers from different specializations. The interviews were recorded then transcribed and analyzed. The interviewees' names and specializations were not mentioned in this study for their privacy.

Instrument

The procedures of handling the data followed the suggestions of experts in the field. Subsequently, online interviews were then used to elicit further data. This kind of data collection enabled the researchers to collect in-depth data to hone the quality of the study. The direct interaction between the researchers and participants enabled the researchers to clarify and ask more questions when it is needed.

Selection of sample

The researchers prearranged to interview a group of teachers with different specializations, who integrated technology in the learning-teaching process. Those teachers had different experiences in using technology in their teaching and diverse information. Some of the samples got trained and the others did not have enough knowledge. This attempt added particular attitudes to her research.

Limitations of the study

- 1-The study is confined to different specializations teachers.
- 2- The study is conducted in the second semester of the academic year 2019-2020 at Sarta Secondary Girls School.
- 3- This study cannot be generalized for the whole country because the study sample is small.

Procedures

Interviews analysis: To collect data and obtain more information about the study problem, online interviews have been conducted. The first step was contacting (13) teachers from different specializations at Sarta Secondary Girls School to request an online meeting with the interviewer to discuss the issues of interest. As soon as the request approval was acknowledged by the interviewed people, the interview appointment was arranged. Online interviews were done with (13) teachers who were interviewed to cover aspects related to the effect of technology integration on students' motivation and engagement. Analysis procedures of transcribed interviews were done based on the guidelines of thematic analysis. It was mainly interested in detecting themes that demonstrate the current situation of from the Teachers'perspectives

RESULTS AND DISCUSSIONS

Table 1: Analysis of teachers' response on the interview

| No. | Theme | Item | Frequency | Percentage |
|-----|--|-----------|-----------|------------|
| 1. | Degree of integration of technology in teaching-learning process | Nothing | 2 | 15.3 |
| | | Low | 1 | 7.9 |
| | | Moderate | 3 | 23.5 |
| | | Good | 2 | 15.3 |
| | | Very good | 5 | 38.3 |
| | | | | 100.0 |
| 2. | The effect of technology integration on | Enhancing | 10 | 47.6 |

| | | | | | |
|-----------------------------------|--|----------------------------|--|---|-------|
| 3. | students' motivation and engagement | students' level | | | |
| | The obstacles of technology integration in teacing- learning process | Breaking classroom routine | 5 | 23.8 | |
| | | Motivate students | 4 | 19.1 | |
| | | Nothing | 2 | 9.5 | |
| | | | | | 100.0 |
| | | Crowded classroom | 2 | 10.0 | |
| | | Internet problem | 7 | 35.0 | |
| | | Inadequate devices | 9 | 45.0 | |
| | | insuffecient proficiency | 2 | 10.0 | |
| | | | | | 100.0 |
| | | 4. | The suggestions for enhancing technology envirnment in the schools | Providing good infrastructure ,devices ,programms ...etc. | 12 |
| Good Plannig for using technology | 2 | | | 10.0 | |
| Training teachers | 6 | | | 30.0 | |
| | | | | 100.0 | |

The four themes that related to the study questions emerged from the teachers" semi structured interviews are presented below:

The degree of integration of technology in the teaching-learning process

The theme aimed at identifying the degree of integration of technology in the teaching-learning process according to teachers. Five interviewees confirmed that the degree is very good, two said that it is good, three responded moderate, one said it is low and two agreed that there is no technology used in teaching.

The researcher attributed this result to the budget of the school is not enough to provide technological tools for all classrooms, where classrooms are containing some technological tools and some classrooms do not contain them, the researcher attributed that to the lack of sufficient support by the local community of the school in terms of the availability of the technological environment. The teachers who said that the degree of technology use is low and the researcher attributes this result to the low experience in the use of technology and also to their lack of efficiency in the use of technology due to their large age or lack of interest in technology.

The effect of technology integration on students' motivation and engagement

Half responses said it enhances the students' level, five said it breaks the classroom routine, four agreed that it motivates students to learn. On the other hand, two teachers said it does not affect students' learning. The

researcher attributes the reason that five who said the technology breaks the class routine is that they have strategies using technology that makes learning and teaching enjoyable and easy and breaks down the student's psychological barriers to learning. The reason for this is that the student is the center of the learning process.

The obstacles of technology integration in the teaching-learning process

Teachers said that the obstacles are inadequate devices, internet problems, crowded classrooms, and insufficient proficiencies. The researcher attributes the reason for the obstacles is the tools of learning technology is not enough to generalize all classes and disciplines and students, such as laptop and smartboard, due to lack of classroom environment appropriate in terms of classroom size and overcrowding students and the lack of strong Net lines that suit the technological learning programs. The researcher attributed the reason for the teachers' agreement that the integration of technology has an impact on the motivation of the students to training courses for the use of technology in education and also to the nature of their specialties such as English, Mathematics, and Arabic because these activities are suitable for the use of technology. While teachers who did not agree with the effect of technology integration in education on students' motivation was due to their lack of sufficient knowledge in the technology of education and their lack of training in technology learning courses for some reason.

Suggestions for enhancing motivation and engagement of students in the technology environment

The suggestions provided by teachers are providing good infrastructure devices, programs.... etc.), good planning for using technology, and training teachers. The researcher attributes the need to provide a technological environment classroom to embrace educational learning activities to contain educational electronic devices and environments equipped with high efficiency.

According to table one, the analysis of the responses of the teachers and those responses were taken clearly to the four main questions. The first one was about the degree of integration of technology, five of them said very well thus leads to strong motivation and engagement of students in the classroom and the students responded well to technology-infused activities because of their familiar background with technology and this agreed with the study of (Atkinson, 2000).

It's an effective way to integrate students' technological background into class activities and this is very helpful to get real incomes. Integration of technology in the learning process meets the students' needs and interests. One of the views of education is to get sustainable learning technology has an effective role in that situation and good for retaining information sustainably.

The analysis of the answering of the questions of the interviews of different specialization teachers and analyze their interviews shown that technology integration has an efficient impact on students' motivation and engagement. Thus, this agreement to the studies of Dwason (2012), Downes and Bishop (2012), Martinez and Schilling (2010), and 'Technology in Education' (2015) that all noticed increased engagement and motivation in students' when they have a good environment and has an opportunity to use technology tools for the creation of authentic learning experiences.

CONCLUSION

Based on the statements of the World Health Organization (WHO), COVID-19 represents a global public health emergency (Cucinotta&Vanelli, 2020). According to the orders issued by governments in most countries of the world, it has issued directives for educational institutions to start preparing for distant learning (DL) patterns., As a result, COVID-19 has had a serious impact on students, teachers, and educational institutions around the world (Mailizar, Almanthari, Maulina, and Bruce, 2020).

What we get from this study is a clear idea and familiar conclusion of the effect of technology integration on student's motivation and engagement. The researcher concludes that technology has a powerful impact on the learning-teaching process in terms of students' motivation and engagement, especially those who are interested in it. Undoubtedly, technology integration breaks the routine of the classroom and enhances the inner abilities of the students positively and that is what this study concluded. There are needs to be interest and motivation with using the technology in the first place for students to succeed. The result of this study showed that teachers from different specializations have diverse views toward technology integration in term of the degree of it in Sartagirls school how it affected the motivation of

students and engagement and what are the obstacles that were found in the classroom circumstances which face the using technology such as the weakness of the network and poor technological devices.

RECOMMENDATION

In the light of the results of this study, the researcher recommended

1. The need to improve the technological environment of the school by supporting the private sectors financially and working with them.
2. Prepare and train both teachers and students on how to be ready for learning in emergency.
3. Identify the problems that students' have gone through during their learning via e-devices which has left an effect on the students' motivation.
4. Use strategies and methods that meet the students' technological interests, needs, and skills.
5. Conduct more studies that are relevant to the education in emergency.
6. Conduct training courses for the teachers on how they can integrate technology to enhance the education,
7. Intellectual orientation to the use of technology in a way that serves its interest in the classroom.
8. Diversity in the use of technological activities by the teacher in the classroom.
9. Palestinian Ministry of Education and Higher Education should prepare a backup plans for emergencies.
10. Privet sectors may help schools financially to build educational platforms for its students.

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